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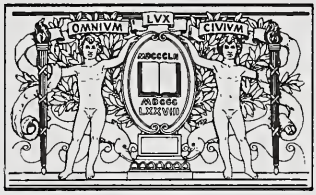

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TRANSPORTATION STUDY AND ACCESS PLAN FOR "PARKSIDE WEST" IN BOSTON

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July 1986

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1. INTRODUCTION AND PROJECT DESCRIPTION

Parkside West represents a residential addition to downtown Boston in a promising location opposite the Boston Common (See Figure 1-1). It is in keeping with the concept of encouraging more intown living and is physically scaled to fit into its surroundings. Increases in downtown residency represent a transportation value in bringing homes within walking distance of intense concentrations of jobs and other activities as well as a social value in encouraging a downtown area with 24-hour vitality.

The present proposal for which formal approvals are being sought is Phase I of a two phase development. The two phases are almost identical in scale, so that the transportation impacts for both phases will be double that of Phase I. This report concerns itself with Phase I, which has the following characteristics:

* Site Area in square feet (SF) ---------- 8,037 (with street acquisitions)
* Building Size - gross SF ---------- 101,686
  - residential units -------- 94
  - residential SF ---------- 77,105 (net)
  - ground floor retail SF ---- 2,402
  - stories ---------- 17
  - floor area ratio --------- 12.3 (approx.)
* Parking - underground valet spaces ------- 90
* Loading - A small loading area will be provided on site with access from Mason Street.

The project has had conceptual review by City of Boston agencies and is viewed as being a desirable addition to central Boston, subject to pending additional reviews. These reviews include street and transportation-related matters which are the subject of this report. The city has included the project in a development status report entitled "Downtown Projects II" (1)

The review areas of a transportation nature for which this report is seeking to establish project acceptability include:

- Transportation Access Plans -- As implied in the report title, Access Plan requirements appropriate for the size and type of this project are set forth. Sections on transportation, parking and construction impacts and management are included, along with an identification of those mitigating measures which can help to minimize negative impacts. It is expected that the Access Plan will be reviewed by the Boston Transportation Department, the Boston Redevelopment Authority, and the Zoning Board of Appeals.

- Parking Freeze Exemption -- Information on parking presented herein should help obtain an exemption from the Parking Freeze as administered by the Boston Air Pollution Control Commission. Residential parking is exempt from the Freeze, but the BAPCC reviews such parking to fully ascertain that parking will not be used commercially.

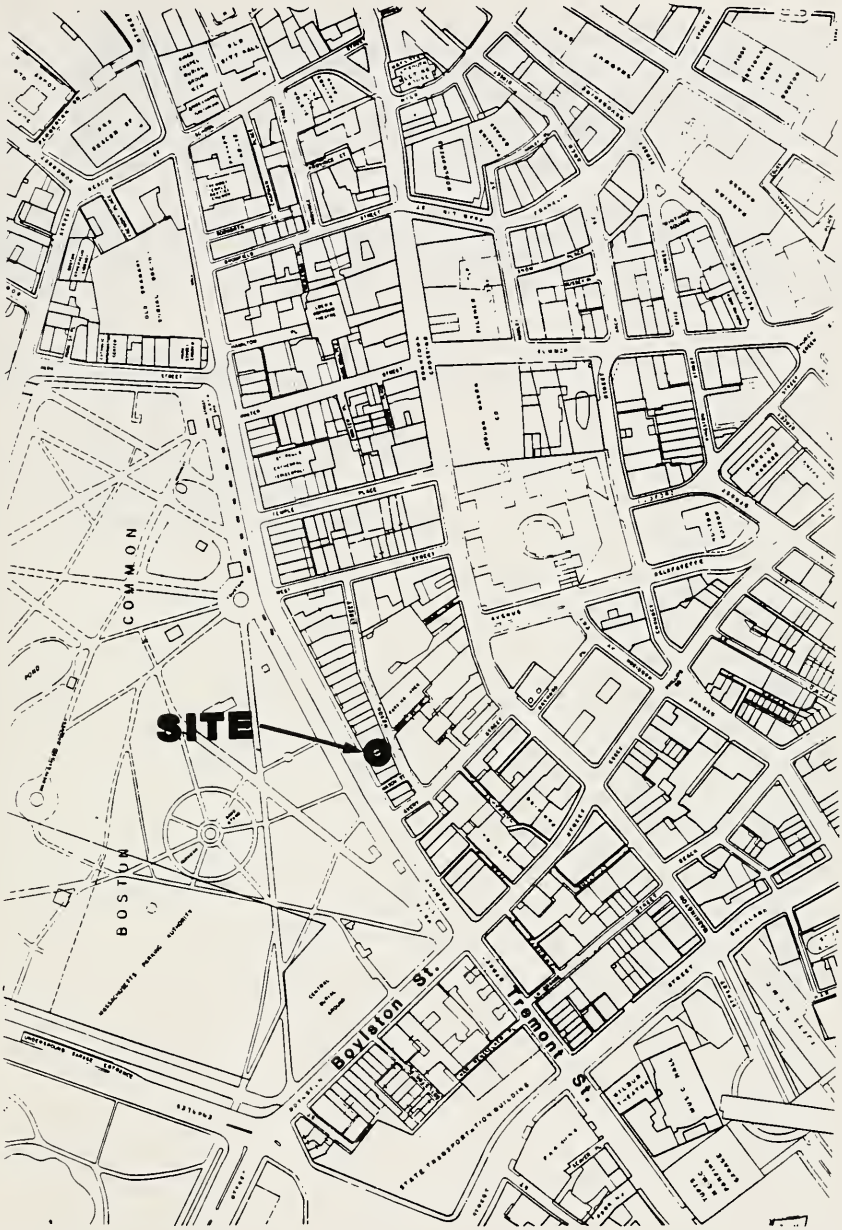

FIGURE 1.1

LOCATION PLAN

Parkside West

- Street Changes -- Alterations in street rights-of-way or their use and physical changes in curb locations and other matters must be approved by the Public Improvements Commission. Parkside West envisions the extension of underground parking under portions of Mason Place and Tremont Street and the conversion of Mason Place for greater pedestrian use, so that the PIC must approve of the proposals and the manner of their implementation.

With the assumption that all necessary approvals can be obtained, the proponent expects to start construction late in 1986, with completion envisioned by the end of 1987. Phase II, similar in concept to Phase I, will seek approvals and be implemented in ensuing years, with the total work being completed by 1990.

This report sets forth project data, analyses, impacts, and mitigating measures in a number of sections, as follows:

* Existing Conditions;
* Downtown Area Residential Parking Survey;
* Future Trip Generation;
* Project Impacts; and
* Mitigating Measures/Access Plan

2. EXISTING CONDITIONS

The Parkside West site is characterized by a variety of existing access conditions. On one hand, it is within convenient walking distance of the Green, Red and Orange Lines for good transit access. On the other, it suffers from lack of direct access from regional highways and from limited circulation from a one-way street pattern and the presence of the Boston Common on one side and the Downtown Crossing on the other. As an intown residential proposal, a large portion of trip-making will be by walking, due to the many job and other activity opportunities in the area. Pedestrians and cars, however, are in conflict with one another, particularly on Tremont Street in the Park/Winter Streets and Boylston Street areas. These matters will be expanded below.

2.1 Street Network and Circulation

The block containing the site is bounded by Tremont, Avery, Mason and West Streets. All are one-way streets with the following characteristics: (See Figure 2.1)

Street	One-Way Direction	Travel Lanes	Parking
Tremont	Southbound	3	E. Side
Avery	Eastbound	1	Both Sides
Mason	Northbound	1	W. Side
West	Westbound	1	Both Sides

In referring to parking above, the notation is meant in the sense that parking or loading is allowed at some locations along a curb face, so that a continuous travel lane is not available. Signals are installed on Tremont Street at both West and Avery Streets, each with an exclusive pedestrian phase provided. In fact, since the current direction of Avery Street is one-way from Tremont, the signal only functions for the sake of pedestrians at this location.

Auto access options are not numerous. It is possible to drive to the site via Washington Street and the Downtown Crossing area over West Street, but Tremont Street offers the more ledgible routing from defined arterials. Access from the Expressway/Turnpike is, however, most convenient via Kneeland Street, Washington Street, and West Street. In the future, if New Essex Street is created to provide a westbound link to Lafayette Place and the Crossing, a more convenient route to Parkside West will be available from the Central Artery to the east.

In driving from the site, the chief routing is via Tremont Street to the south, with the first opportunities available for turning off being at Boylston and Stuart Streets. Driving to the Expressway/Turnpike is best done via Stuart/Kneeland.

The only nearby publicly available onstreet parking available is at offpeak meters on the east side of Tremont Street and on Avery Street.

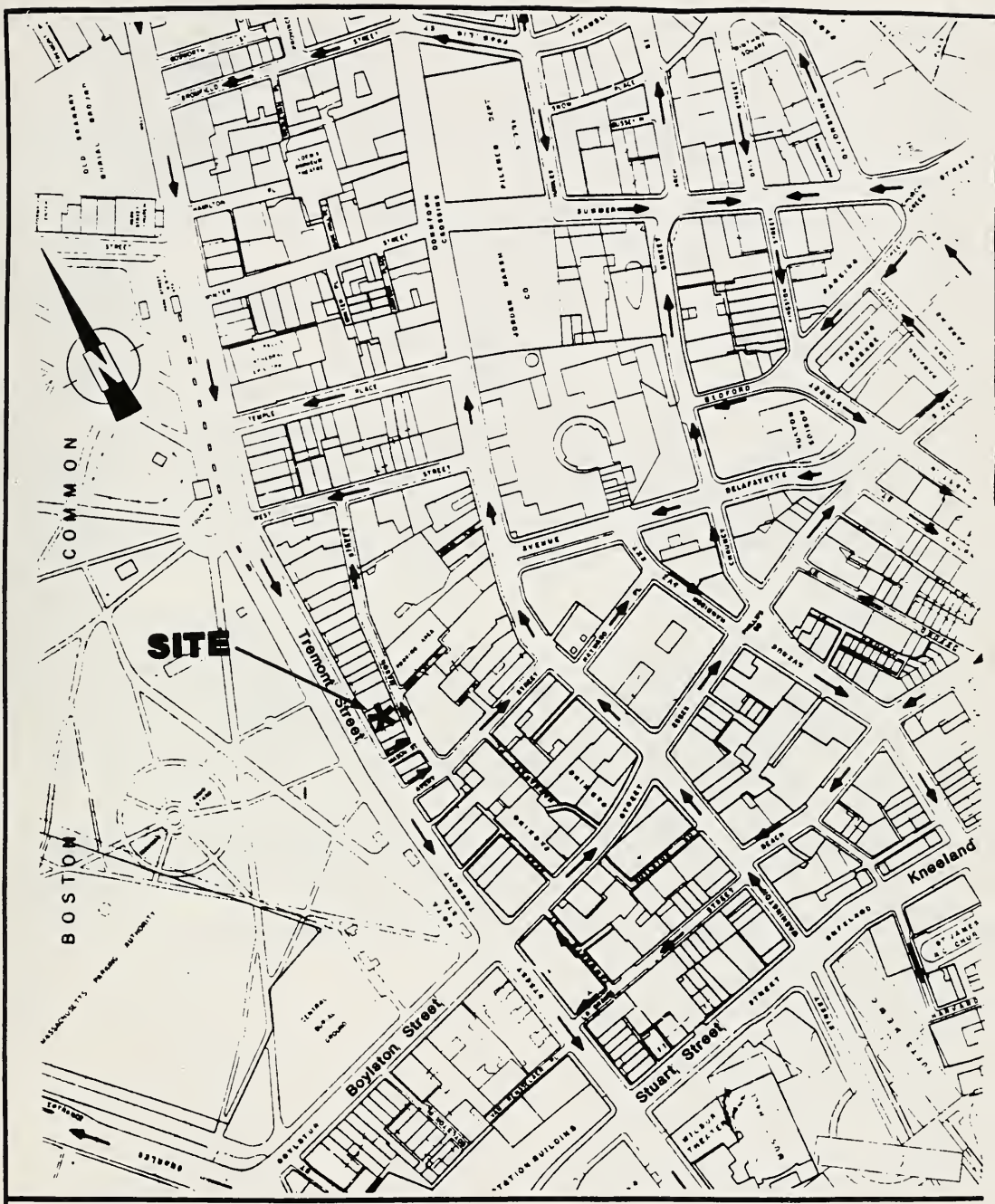

FIGURE 2.1

CIRCULATION

Parkside West

2.2 Traffic Volume Levels

Due to the very small vehicle trip generation of Parkside West, as will be seen, no detailed analysis of traffic capacity were made, nor were new traffic counts taken. Project traffic will not be significant.

Based on traffic counts taken between 1978 and 1982, however, the following traffic levels are experienced on the indicated streets:

Location		Average Daily Traffic	PM Peak Hour
Tremont North of Boylston		20,000 vehicles	1500 vehicles
Boylston West of Tremont	-W. Bound	5,500	400
	-E. Bound	12,500	700
Avery East of Tremont		800	60
West East of Tremont		4,200	260

The intersection of Tremont and Boylston Streets represents the most congested location in the immediate area, operating at saturated conditions with long queues of vehicles extending from the intersection on both streets. One quite justifiable cause of this low level of service is the fact that about 25% of the signal timing is reserved for an exclusive pedestrian phase. Similar intense vehicle and pedestrian conflicts exist at the Tremont and Park/Winter Streets intersection.

2.3 Transit Service

Three major transit lines are easily available by walking from the site. The Green Line is available at Park and Boylston Stations while the Red Line can be accessed via Washington or Park Stations. The Orange Line is available at Washington and Essex Stations, all by a short walk. Thus, not only are many job and other opportunities available by walking in this downtown setting, but access to the regional transit system is excellent from the site.

Some urban blight exists in the area, particularly towards Lower Washington and Essex Streets, so that walking conditions can at times be unsettling. City policy and the unfolding development pressures are likely to bring about changes in this in next few years.

The site location relative to the transit system is shown in Figure 2.3.

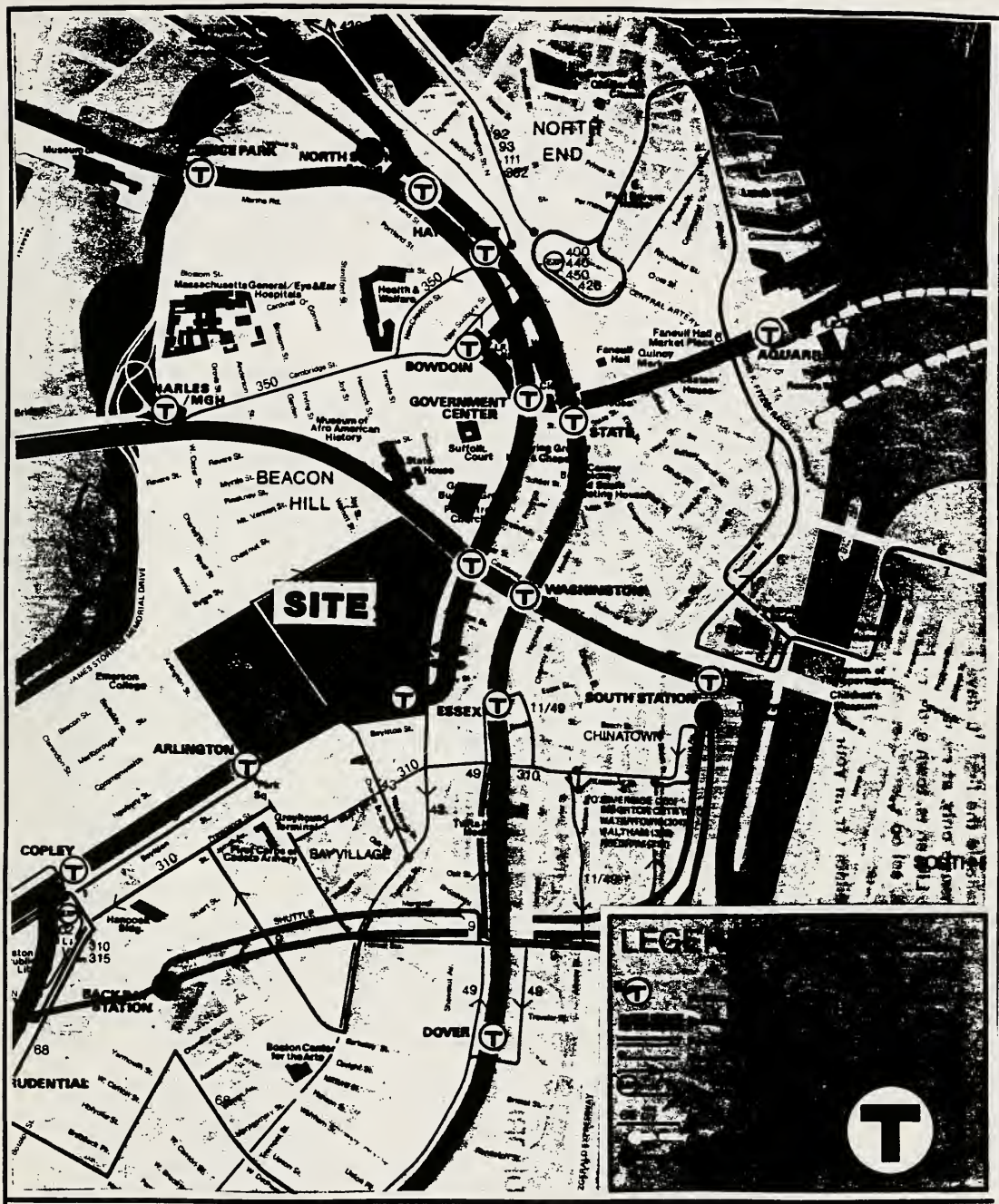

FIGURE 2.3

RELATION TO TRANSIT SYSTEM

Parkside West

3. DOWNTOWN BOSTON RESIDENTIAL PARKING SURVEY

The level of parking to be provided at Parkside West is considered very important for two reasons -- the effect on project access conditions and on the marketing of condominium units. The first item is of concern to both the public review process and the proponent, while the second is of most concern to the proponent. In order to shed some light on both issues, a telephone survey of existing residential complexes in the downtown area was undertaken and is presented below.

3.1 Survey Method

Utilizing knowledge of recent residential developments and a BRA report on housing stock comparisons between 1980 and 1985 (2) telephone calls were made to development managers, owners or real estate representatives to determine the amount and nature of parking provided or available in terms of the development size, type, cost and location. Comments were solicited on the effect of parking on unit marketing. Calls were made in late April and early May 1986 to many locations, resulting in 18 completed survey responses. Surveys were difficult to obtain from some of the very smallest developments due to the difficulty in targeting survey respondents.

Despite survey restraints, a good range of residential responses were obtained, from medium small (43 units) to large (764 units) developments, both apartments and condominiums, luxury and subsidized. The bulk of survey responses were from residential condominiums (about 66%) of which half included some commercial and/or retail uses. The Back Bay and Waterfront areas represent 40% and 20%, respectively, of the survey respondents. Developments in these two areas are dominated by market and luxury residential condos, with mixed use facilities prevalent on wharves along the Waterfront. Other areas represented include Charlestown (1), downtown central (2), Kenmore (2), South End (1) and Brookline (1). Survey responses in these latter areas are almost exclusively from market rate units, with the exceptions of Kenmore Abbey (subsidized) and Devonshire Tower (luxury).

3.2 Survey Results

Survey results are summarized by residential site in Table 3.2, where availability of parking varies from a low of 0 spaces/unit to as high as 2.3 if commercial condominiums are also included in a mixed use situation. The higher parking ratios (above 1.0 spaces/unit) are generally associated with mixed use developments along the Waterfront(3), but also include the Brook House in Brookline, where there is no overnight on-street parking, and Church Court in the Back Bay where the spaces sell for up to $50,000 each! Included in the low end of the parking availability scale (below 0.50 spaces/unit) are renovations of large, older structures into market or subsidized housing (4) and luxury apartments at Devonshire Tower for which parking is leased at $225 per month. For the remaining 6 respondents, parking availability varies in the tight range of from 0.92 to 1.0 spaces/unit. All but one of these are new construction, except for the Somerset, which created a new parking garage for the renovated premises.

TABLE 3.2 : RESIDENTIAL PARKING SURVEY SUMMARY

DEVELOPMENT	LOCATION	TYPE	# UNITS	# PARKING SPACES	SPACES/ UNIT	COST*	MARKET EFFECT
Church Court	Back Bay	New luxury condos	43	46	1.07	$10-50K	
Four Seasons	Back Bay	New luxury condos	100	**	1.0		Low
Greenhouse	Back Bay	New market apartments	322				
Prudential	Back Bay	New market apartments	761	700	0.92	$135 per mo.	High
Ritz Condos	Back Bay	New luxury condos	52	48	0.92	0	Low
Somerset	Back Bay	Renov. market condos	205	**	1.0	$24-36K	High
Vendome	Back Bay	Renov. luxury condos	110	0	0	NA	Low
Brook House	Brookline	New market condos	764	839	1.10	$17-22K	High
Constitution Quarters	Charlestown	New market apartments	367	350	0.95	$30-50 per mo.	High
Devonshire	Central	New luxury apartments	475	212	0.45	$225 per mo.	Low
Tremont-on-the-Common	Central	Conversion condos	374	318	0.85	$150-175 per mo.	Mod.
Braemore	Kenmore	Renov.market condos	104	0	0	NA	Mod.
Kenmore Abbey	Kenmore	Renov.subsid. apartments	199	0	0	NA	Low
Piano Craft Guild	South End	Renov.market/ subsid.apart.	238	60	0.35	0	Low
Wharf "X"	Waterfront	Renov.market condos/mixed	90	213@	2.37	$135 per mo.	High
Harbor Towers	Waterfront	Conversion condos	624	**	1.0	$132 per mo.	Mod.
Lewis Wharf	Waterfront	Renov.market condos/mixed					
Union Wharf	Waterfront	Luxury condo/ resid./comm.	89	102@	1.15	$125 per mo.	High

* Expressed as either purchase price of space or monthly rental.
** A right to one space per unit is a ground rule.
@ Counting both residential and commercial condominiums.

The results can appear confusing since the quantities vary widely and the expressions of the importance of parking to marketing are not in agreement. All the developments have achieved full occupancy on the basis of the parking and other amenities which each one could provide under development circumstances. Each one can be said to have achieved its own equilibrium with respect to cost, opportunity to provide parking, and the mix of other features. This equilibrium has the following trade-offs with respect to these three elements:

- Renovations generally have less opportunity to provide parking.
- Other amenities can offset the lack of parking.
- Lower cost to the buyer can offset both lack of parking and other amenities.

Conclusions

Some conclusions can be drawn from the above summary, tempered by the more detailed survey responses. First, a substantial number of intown residents wish to own cars, whether or not the cars are used for work purposes. Many pay substantial fees or other space costs to park. This implies that the availability of parking is a positive marketing feature. Furthermore, it would seem that parking availability would optimize monetary return to a developer, or else offset the lack of some other desired feature. Unless costs of providing it are exorbitant, parking is a valuable economic feature of residential development.

From a functional and public review standpoint, parking at reasonable levels makes sense. Without it, increased pressures are placed upon onstreet parking, often in areas where parking is already at a premium. Even though Parkside West, by virtue of being in a B-10 zone, may technically not require any parking through zoning, a public purpose would be served by creating it.

Looking at both the private economic value and the public functioning, along with the general levels of parking provided by surveyed developments, the intended parking ratio of close to 1 space for each residence, albeit with some dimensional limitations, seems prudent.

4. FUTURE TRIP GENERATION

This section deals with the amount of trips generated by Parkside West, broken down by the mode of tripmaking -- walking, by automobile, or by public transit. In addition, the delivery/loading demands are addressed. These estimates form the basis for assessing impacts of the project on transportation systems as well as on project functioning.

Starting with an estimate of the number of person trips generated per weekday by each condominium, total daily person trips are calculated. These are then divided into the various travel modes. The number of trips occurring in the peak hours is then derived. A vehicle occupancy factor is applied to convert auto person trips into auto vehicle trips. The analysis at this point yields weekday and peak hour person and vehicle trips generated by the project. These are then distributed onto area streets and public transit according to an estimate of trip origins and destinations.

4.1 Person Trip Generation

The Institute of Transportation Engineers (ITE) 1985 Trip Generation Manual (3), presents surveyed vehicle trip generation of developments where the automobile, in most cases, is the exclusive mode of transportation. In studies involving 41 residential condominiums complexes with an average of 191 units, an average daily vehicle trip rate per unit of 5.2 arrivals and departures was noted, varying from 0.6 to 11.8 vehicles per day in the various developments studied.

For the purposes of this study, it is considered appropriate to assume a person trip generation of 8 arrivals and departures (4 "ins" and 4 "outs"). This assumes the 5.2 ITE average vehicle rate and applies a generous (under suburban conditions) 1.4 persons per car and about a 10% allowance for non-auto travel. Peak hour travel is estimated proportionately to peak hour values set forth in the ITE manual. A summary of person travel for Parkside West is shown in Figure 4.1.

Although ground floor retail space of 2,402 square feet is planned, this is not explicitly taken into account for two reasons:

- Retail uses of this type and scale are not considered to attract new trips into the downtown, but to serve persons already there for other purposes, either at the project itself, or generally in the area for work, business, or shopping.

- The relative number of trips, especially in the peak hour is small compared to the residential component.

The trip rate adopted for the residential use is considered ample enough to represent all uses in the building.

4.2 Modal Split and Car Occupancy

In dividing person trips into the several travel modes -- car, transit, and walking -- reference is made to a Boston Redevelopment Authority (4) analysis of 1980 census data . (BRA, 1986, Diversity and Change 1970-1980). A presentation of mode to work in a number of intown residential communities shows:

	Mode to Work (%)					
Neighborhood	Walk	Auto Driver	Car Occupancy	Auto Passenger	Transit	Other
Central (North End, CBD, etc.)	53.5	15.5	1.57	8.8	19.6	2.6
Beacon Hill/Back Bay	43.2	16.6	1.32	5.4	29.2	5.6
South End	29.6	21.9	1.50	10.9	33.2	4.4
Fenway/Kenmore	41.2	14.8	1.35	5.3	34.5	4.0

What is immediately obvious from the above is the high level of walking, which is not surprising considering the proximity of jobs and other activity centers.

Parkside West is on the periphery of the Central Business District, on the side towards Beacon Hill. Recognizing this, and also the fact that travel to work may be less auto oriented that total travel, the following values were chosen as being representative of probable Parkside West travel, habits by major mode being taken into account:

Percentages:
- Walking -- 45%
- Using Transit -- 25%
- Traveling by Car -- 30%

Average Car Occupancy: 1.5 persons

Applying the above values to person travel as obtained in Section 4.1, the total daily and peak hour travel generated by the project, broken down by mode, is presented in Table 4.2.

TABLE 4.1

PARKSIDE WEST PERSON TRIP GENERATION

* Based on 94 residential condominiums

	Trip Rates (per dwelling)	Trips
Daily Person:		
Arrivals	4.0	376
Departures	4.0	376
Total	8.0	752
A.M. Peak Person:		
Arrivals	0.11	10
Departures	0.57	54
Total	0.68	64
P.M. Peak Person:		
Arrivals	0.57	54
Departures	0.28	26
Total	0.85	80

TABLE 4.2

PARKSIDE WEST TRIPS BY MODE

* Based on 94 residential condominiums

	Average Daily		A.M. Peak		P.M. Peak	
	Arrivals	Departures	In	Out	In	Out
Walk Only (persons)	169	169	5	24	24	12
Transit Users (walk & ride) (persons)	94	94	2	14	14	6
Auto Users (persons)	113	113	3	16	16	8
(vehicles)	75	75	2	11	11	5
All Modes (persons)	376	376	10	54	54	26

Source: BRA Report on 1980 Census (4)

* Percentages: walking -- 45%
using transit -- 25%
traveling by car -- 30%

Average Car Occupancy: 1.5 persons

It can be seen from Table 4.2 that a total of 376 daily person arrivals are expected, with 54 occurring in the PM peak hour. 75 daily vehicle arrivals, 11 in the PM peak hour, serve a small part of this person travel. The pattern for departures is very similar relative to the AM peak hour. The high use of walking and transit combined is evident, along with the overall minor level of trips in the downtown setting.

4.3 Distribution to Transportation Facilities

No detailed breakdown of trips onto the regional transportation facilities is considered appropriate due to the relatively low level of trips generated and the "reverse commute" nature of work trips to non-downtown locations. The order-of-magnitude distribution supports this assumption.

If the 150 total daily vehicle trips were divided evenly among the five regional corridors (North, Northwest, West, Southwest and Southeast), only 30 trips per corridor (15 inbound and 15 outbound) would result. For the 20 PM peak hour vehicles, only about 3 inbound trips per corridor would occur.

For peak hour transit trips, if it is assumed that 50% used the Red Line, 30% the Green, and 20% the Orange, a respective ridership of 10, 6, and 4 persons would be generated. This can be considered trivial with respect to general transit usage, albeit important to the users.

The most important distribution of trips is that of pedestrians to the surrounding area. This includes both walk to transit and walk only trips. The major directions of travel are towards the Common and Park Square/Back Bay, towards Downtown Crossing/Financial District, and north in the Tremont Street corridor to Government Center. The total 526 daily walk trips are likely distributed such that no more than about 250 are oriented in any one of these directions, or around 30 persons in the peak hour.

4.4 Relation to Parking Demand

In a residential development, parking demand is different than in a commercial complex, since demand is directly related to the the desire to own a car for whatever reason, as well at to the purposes related to specific trips. If cars are owned, they are most often stored at a person's residence, even though car usage may be irregular. Parking at a commercial destination is related to the decision to drive on a particular trip. In a residential garage, cars are absent for commercial reasons. In a commercial facility, cars are present for commercial reasons. Peak accumulation of commercial parking is during weekdays at midday, while residential parking peaks at night and on weekends.

In looking at Parkside West's trip generation of 75 round trips per day, it is possible to apply a general factor of about 40% of all trips being work related to say that about 30 round trips are work trips which leave in the morning and return in the evening. The other 45 round trips may be considered shorter term with an average of 2.5 occurring on a daily basis for each car not being driven to work. This would imply 18 vehicles being so used. A total car ownership of 48 is implied to satisfy such auto travel, or about 0.5 cars per residence. This exercise is oversimplified and arbitrary, as cars used

for work would also be used for other purposes. It is only put forth to show the general relationship of car ownership if cars are owned only for non-work purposes. If all cars were used for work purposes on a regular basis, the trip generation would imply an ownership of only 30 cars in the development.

In actuality, residential parking demand is simply related to how many people choose to own a car for a variety of reasons, under various circumstances. The residential survey of Section 3. implies ownership widely ranging between zero and over one, while the 1980 Census shows an average of just under one-half for downtown area Boston neighborhoods (5).

5. PROJECT IMPACTS

In overview, the project impacts of a transportation nature are quite modest with respect to the existing levels of pedestrian, transit and automobile use in the area. Average daily person trips have been estimated at 752, counting both entering and departing persons, and entailing around 150 vehicle trips. In the PM peak hour, 80 persons, or a little more than one per minute, are expected to enter or leave the premises. Only 16 vehicles are associated with this peak hour, or about a vehicle every four minutes. These numbers must be seen in the context of about 20,000 daily and around 1,500 PM peak hour vehicle trips on Tremont Street adjacent to the project site. If all Parkside West vehicle trips came and went by Tremont Street, the traffic contribution would be about one percent. Given the hundreds of hourly pedestrians on Tremont Street, and in the Downtown Crossing, project foot traffic will be minor in comparison.

Impacts must be measured in more than numbers, and involve how access is in detail gained to the site through the use of sidewalks, roadways and curbside space. These types of impacts will also be described, both during and after construction.

In addressing the impacts of a project of this nature where additions to the transportation system are minor, the issue is not so much how bad the impacts will be, but how the project may yield positive impacts by recognizing nearby problems and opportunities. The question is as much how the project can enhance the area as how much does it cause degradation.

5.1 Transit/Pedestrian Impacts

Since virtually all transit trips will be accomplished by walking to transit stations, transit trips in the area of the project take the form of walk trips. Given less than 200 transit trips per day and about 20 in the peak hour, the effect of these trips on transit line loadings is negligible.

With 70% of all trips being in the walk category (walk to transit or walk only), there is concern that sidewalks are ample and that street crossings are safe and convenient. Pedestrians from Parkside West will walk in three general directions -- towards the Downtown Crossing, across Tremont Street to the Common and Park Square/Back Bay and north on Tremont to Government Center and beyond.

The major pedestrian difficulties are found in crossing Tremont Street and Boylston Street intersections. Even though exclusive pedestrian phases are found at most of these, the volumes of pedestrians and the length of signal cycles result in many pedestrians not waiting for their phase in the face of heavy traffic. Cars in their turn are not always scrupulous in granting pedestrians' rights. Proper marking and maintenance of crosswalks, timing of signals, and enforcement of regulations could yield positive results for this situation.

In the immediate vicinity of the site, the proposed rebuilding of Mason Place for improved pedestrian conditions will enhance the area. This will be further described in a later section.

5.2 Car Access

The minor car traffic generated by the project will not cause any noticeable lowering of traffic levels of service. Due to the presence of the Boston Common, the Downtown Crossing, and related street patterns, access to and from the site is constrained to only a few options, all of them using Tremont Street to a degree with the existing street pattern.

Cars driving to the site would either approach from the north along Tremont or come from the direction of Washington Street, gaining access to the immediate block of Tremont via West Street. To get to the Parkside West garage on Mason Street, cars would turn left on Avery Street to turn left again into Mason Street. Cars leaving the garage would have to gain access to Tremont Street via Mason And West Streets, from which dispersion would take place via Avery to Washington, but more likely via Bolyston/Essex or further south on Tremont.

In the event that Avery Street were reversed as being suggested in the expansion of Lafayette Place and in respect to Bedford Crescent, round-the-block circulation from Tremont Street should be maintained by reversing Mason and West Streets.

5.3 Parking

The proposed parking ratio of almost one space per residence seems appropriate for the project location and circumstances. At this level, it is not likely that there would be an extraneous demand for onstreet parking in the area, nor competition with commercial demands. The level is about twice the average ownership for downtown housing, as shown by the 1980 Census (5).

The volume of project cars entering and leaving the garage is low, amounting to 16 vehicles in the PM peak hour. Circulation to the garage entrance on Mason Street should not cause any capacity problem, nor queueing.

The valet parking spaces, maneuvering areas and ramps, however, have tight dimensions and minimal geometry. Valet control and service should help avoid problems, as will the use, as available, of the loading area for staging. The developer, however, is aware of deficient areas, and is still in the process of improving the design, and extending the underground levels to achieve the desired parking. Detectors and warning beacons on ramps will be installed if sight distance and width restrictions require.

5.4 Loading and Taxis

Delivery services to the site will be most disruptive when people are moving in and out of residences. Larger trucks will have some difficulty maneuvering into or out of Mason Street to the loading bay, particularly when (illegally) parked cars are present. This could lead to some loading from Tremont Street in extreme cases, but it clashes with ground floor uses as well as occupying curb space on Tremont.

Some of the larger trucks will involve moving vans bringing the furniture of new owners. In the first two months after completion, moving activity will

be at a maximum, involving perhaps 20 to 25 units. Thereafter, about 5 to 7 "closings" may be expected until the building is fully occupied. During the initial period of intensive moving, Mason Place will be used to accommodate moving vans.

Once the building is occupied, the incidence of large truck or moving van access will be infrequent, with most deliveries being made by smaller truck or service van. With these, use of Mason Street and the service entrance should not be a problem.

Taxis will service the front door of Parkside West, using the curb lane that is generally occupied today for parking or standing. Experience will show whether or not an official new cab stand should be established. Cab usage and operations will have to coordinated with any plans associated with Tremont-on-the-Common nearby, to avoid confusion. It is expected that the easterly curb lane of Tremont will continue to be a curb service lane in the vicinity of the project, supporting loading and taxi operations with limited parking.

5.5 Construction Activity

The relative smallness of the site is further compounded by the proposed extension of underground parking into portions of Tremont Street and Mason Place. It is therefore necessary that Mason Place and Tremont Street sidewalks be fenced in and occupied during construction, with limited pedestrian ways safely maintained according to City permit conditions. The detouring of Tremont pedestrians across Tremont Street to the Common side via the closest safe crosswalks would be the most extreme proposal, to be avoided if possible.

Conditions will require some offsite storage of materials and equipment. Possible sites being investigated are the parking lot next to the Opera House and the Common itself, subject to very stringent Parks Department requirements.

Over the 15-month construction period, out of a total of 250 jobs, the number of workers will vary, with a maximum of 130 expected at the peak construction time, representing possibly 60 worker cars. Parking in nearby offstreet facilities will be encouraged, along with maximum carpooling. After the foundation work is completed (about 6 months), limited onsite parking will be available.

5.6 Mason Place Treatment

Besides requiring an underground portion of Mason Place for extension of the parking garage, it is proposed that the 70-foot long street be closed to general traffic and designed as a pedestrian open space. The developer would pave the area in brick, install seating, plantings and other amenities. The design would allow for the access of emergency vehicles.

Mason Place, running between Mason Street and Tremont Street is not essential for the circulation of general traffic. Traffic is relatively light and can be alternatively served by Avery Street in its existing direction, or

by West Street, if one-way street reversals occur.

In proceeding with the Mason Place proposal, a number of approvals are necessary. Street closure and treatment must be approved by the Public Improvement Commission, with provisions for underground utilities. Matters of land ownership, maintenance, and liability must be arranged, along with design coordination. It is possible to achieve the intended objectives without full street discontinuance through City and abutter agreement.

The end result of the proposal can be an attractive pedestrian area to all abutters, integrated with ground level shops and other activities.

6. MITIGATING MEASURES / ACCESS PLAN

The nature of Parkside West is such that transportation impact mitigating measures are built in, compared to a commercial development which attracts commuting employees who in part bring non-resident cars to downtown, causing congestion and competing for parking with other commuters and residents. The project is an intown residential building with a very high walking component, onsite parking for residents, and a modest reverse commute by car and transit. The scale of the development is also quite small relative to the rest of downtown, such that access requirements could be view as trivial in a total system sense. All this has been documented in earlier sections of this report.

Parkside West intends nevertheless to undertake measures which will exploit its favorable position with respect to access to make sure that lax practices do not create unforeseen problems. Mitigating measures for projects of this kind are in the areas of restraining car ownership, encouraging transit use, fostering pedestrian improvements, and managing site operations properly. Such mitigating measures are set forth below to serve as the basis for an Access Plan.

To insure the implementation of committed transportation management measures, the condominium association will be bound through all sales agreements to carry out the relevant features of the Access Plan.

6.1 Transportation Management

As a basic element of transportation management, the developer intends to foster a transportation component within the building management organization. This "transportation office" will be the means of implementing the access program among the residents, as a service. On a day-to-day basis, this function will be served by a cooperative effort between the concierge and the physical management staff.

6.1.1 Car Ownership - Although parking is being provided for at a level of one space for each residence, attempts will be made to keep ownership much lower. This will help the traffic situation in general, ease parking operations under tight valet conditions, and allow for more visitor usage. The chief means to be used to keep car ownership down will be a convenient system of car rental which will be administered and promoted by building management. Rental cars will be reserved and made available through the management office at the time desired and at the building. Knowing that this convenient service is available should dissuade many residents from buying cars of their own.

The residential parking survey presented earlier in this report would seem to indicate through parking availability that ownership in downtown residential communities is less than one per dwelling. This is borne out by the 1980 Census which points to an average of 0.48 cars per unit in inner communities, independent of median household income (5). Coupling a car rental program with the

proximity of jobs and services, transit availability and restrained parking should cut down demand at Parkside West, recognizing that one space per unit under valet conditions is realistic for marketing and street use reasons.

6.1.2 Transit/Pedestrian Measures - Walking to transit or to work or other activity involves the use of sidewalks, crosswalks, and other pedestrian ways. In order to enhance these modes, pedestrian conditions should be made safe, convenient and pleasant. Besides repaving the sidewalks around the project in an attractive manner subject to design review, a new pedestrian open space will be created from Mason Place, subject to Public Improvement Commission approval. In the Parkside West area, a number of other pedestrian improvements may be expected in keeping with the Downtown Crossing theme, as conceptually set forth in the BRA report "Downtown Crossing: An Economic Development Strategy" (6). As available parcels such as contained in Bedford Crescent, Lafayette Place expansion and 110 Tremont Street are developed, the opportunity will exist to realize envisioned pedestrian betterments.

As for the transit system itself, continuing investments are being directed to create an expanded and more reliable operation. For example, in 1987, the new Southwest Corridor with its relocated Orange Line, rebuilt commuter rail and Amtrak service will open. Also coming on line is the lengthening of Red Line platforms and acquisition of necessary rolling stock to have six car Red Line trains. These and many other improvements will help make the transit system more reliable and attractive.

6.1.3. System Operational Improvements - In addition to the transit improvements noted above, operational controls on the area streets should be reviewed to assure that missing signs are replaced, crosswalk markings restored to good condition, and signal timing checked for good balance between vehicular and pedestrian requirements. Over the next few years, the City is instituting a centrally monitored computer system to control signal operations. This will optimize signal timing and coordination for more responsive traffic control.

Long range plans are proceeding for the reconstruction and depression of the Central Artery along with a new Third Harbor Tunnel. This massive undertaking in the core area will eliminate or at least strongly alleviate some current major problems so that traffic will be less likely to reroute to more local street, but stay on the major arterial facilities.

6.1.4 Mason Place Treatment - The use of Mason Place for the extension of the underground parking and for the creation of a ground level pedestrian area will help assure adequate parking, improve pedestrian circulation, and beautify the area. Details of the treatment will be worked out in design review and with the Public Improvement Commission. As mentioned earlier, closing of the street section to general traffic should not have adverse traffic circulation effects,

but the design will be such that the passage of emergency vehicles will be provided for, and future conversion to serve local circulation, if ever found necessary, will be practicable. A generalized view of Mason Place with reference to the site is shown in Figure 6.1 - Site Plan.

6.2 Parking Management

As noted under Project Impacts, the parking garage for Parkside West is a valet facility with somewhat meager dimensions. To mitigate this situation, apart from having valets contend with the geometry, some management measures will be adopted.

6.2.1 Control Plan - Although the volume of cars entering or leaving at any one time is relatively small (e.g.16 cars in the PM peak hour), it is planned to use as necessary a rear staging area designed for the purpose, and the loading area at times when loading activity is not scheduled. The latter area would be an added resource during most evening and weekend periods when resident recreational travel would be at a maximum. With respect to the staging area, the developer intends to increase the size as much as possible during building design refinements.

Entry into the garage will will be aided by ramp detectors and signals to warn of opposing cars, to offset for restricted sight distances on the narrow, curving down ramp.

6.2.2 Car Rental Services - To help reduce car ownership and usage, building management will administer and promote a convenient on-call car rental service in cooperation with a local agency or agencies. Cars may be reserved through the concierge and brought to the building at the time needed. This will help keep demand pressures on the garage to a minimum, and help maintain spaces for visitors.

6.2.3 Visitor Parking - As parking space is available, visitor vehicles will be accommodated. Due to the probable lower intown car ownership and the absence of some tenant vehicles during visits, it is unlikely that significant periods with no empty spaces will be experienced.

The developer has agreed that, under the conditions of condominium sales, the condo association will be bound to accommodate guest parking as is practicable and provide sufficient valet staff to serve such parking.

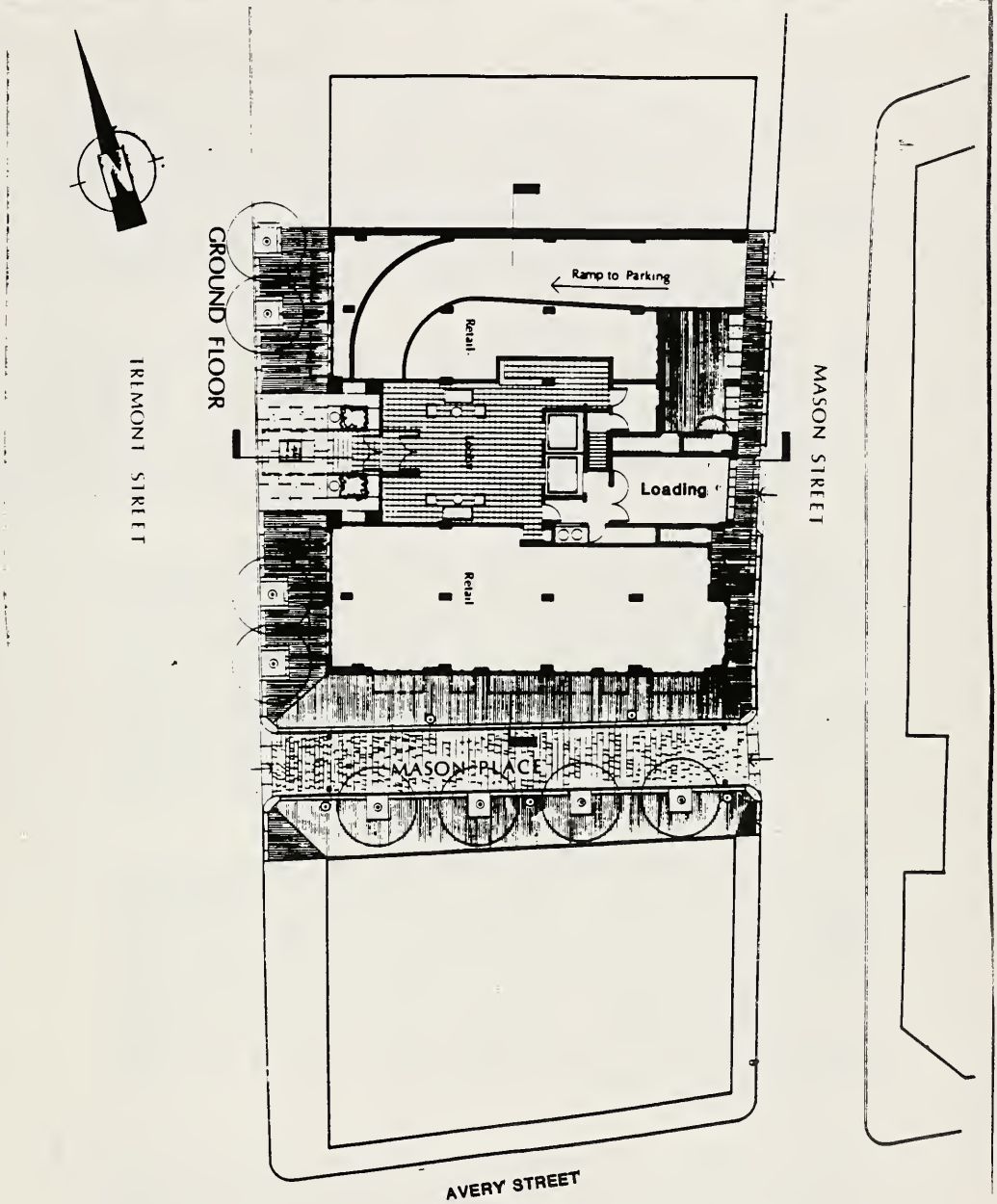

FIGURE 6.1

SITE PLAN

Parkside West

6.3 Construction Management

In order to mitigate the transportation-related impacts of construction, care must be taken to limit the size of the construction site with respect to encroachment on adjacent streets, the timing, routing and intensity of construction vehicles, and the access conditions of workers. Street encroachments involve City permitting and use of streets by trucks and parking also fall under City control. Construction management measures must therefore be closely coordinated with City departments -- Inspectional Services, Public Works, Transportation -- and for permanent easements or physical street changes, with the multi-departmental Public Improvements Commission.

Some limitations exist in detailing a construction management plan prior to the public permitting process and months in advance of construction itself. The City permits and controls require specific input from the City agencies responsible, who must take into account expected conditions at the time of construction, including coordination with other public, private or utility construction going on at the same time. With this in mind, it is possible to state a number of principles which will govern the construction process in order to reduce negative impacts.

6.3.1 Control of Trucks - Trucks transporting materials and equipment to and from the site will be routed on major streets to avoid residential neighborhoods. Control of access times will be imposed so that peak hour disruptions will be avoided. Such peak hour congestion is as detrimental to the construction process as it is to general traffic. At and near the site, truck maneuvering will be supervised by flagmen or policemen, and time at the site will be kept at a minimum. Police supervision will be required when excavations are being made into the street, and at most other times. Controls governing the spilling of materials from trucks will of course be observed.

6.3.2 Street/Sidewalk Encroachments - It is fully recognized that this is a sensitive area due to the relatively small site and the intention to excavate portions of adjacent Tremont Street and Mason Place as underground garage extensions. To accomplish this, care will be taken to fence in the construction area and provide through signing and physical construction, alternate pedestrian ways as necessary, all subject to City permits. The worst period in this respect will be during the excavation and foundation/basement construction phase. The establishment of staging areas on nearby parking lots or even, under stringent controls, on the Boston Common is being investigated to mitigate the severity of encroachments.

6.3.3 Worker Parking - To reduce the number of worker vehicles coming to the site area and attempting to park onstreet, workers will be encouraged to take transit, carpool and utilize site area garages. Although great success with respect to the use of transit has not generally been achieved, the developer is committed **to providing transit passes to construction workers not coming to work by car**, so that greater use of transit can be expected, reducing parking

demand. After the foundation work has been completed, some worker parking onsite will be possible.

6.3.4 Public Operational Changes - When the street area adjacent to the site is occupied, parking must of course be prohibited, and during extreme conditions, a travel lane may at times have to be blocked. The Transportation Department will have to supervise such actions and control the times and traffic devices used to implement the measures. Both public safety and reduction of delays and congestion are considerations here.

6.4 Monitoring

One of the most effective ways to guarantee the long range viability of the project is to plan periodic monitoring of access conditions. The developer is committed to do this for good management of the development and to help achieve public goals in transportation. **On an annual basis, surveys will be taken and previous years records will be assembled to show the travel practices of building residents and visitors -- car ownership, trip generation, the modal split achieved, tenant and visitor parking utilization, car rental experience, loading activities, etc.** Cooperation from the City will be expected on the necessary survey forms and required data. A summary report will be prepared and discussed with the City to review how well the project performed from a transportation vantage point. Where problems or opportunities are found, appropriate responses from both the development and the public sector will be sought.

The naturally favorable transportation features of this intown residential complex coupled with cooperative and constructive interaction with concerned parties over time, should produce a permanent good neighbor.

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